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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,130	03/15/2005	Ercan Ferit Gigi	NL02 0876 US	8905

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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
INTELLECTUAL PROPERTY & STANDARDS
370 W. TRIMBLE ROAD MS 91/MG
SAN JOSE, CA 95131

EXAMINER

LENNOX, NATALIE

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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12/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,130	GIGI, ERCAN FERIT	
	Examiner	Art Unit	
	Natalie Lennox	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on March 15, 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/15/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the unlabeled rectangular boxes shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other

information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

3. Claim 4 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 5 and 7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As per claims 1, 5 and 7, the method, computer program product, and system claimed consist solely of mathematical operations without some practical application. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into

another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

6. Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 5, applicant claims a "computer program product, in particular digital storage medium, comprising program means." Computer programs which impart functionality when employed as a computer component are categorized as functional descriptive material. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. More specifically, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory.

7. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 9, a synthesized speech signal is claimed. A claimed signal per se does not fall within any of the statutory categories because it is clearly not a process, machine, manufacture, or composition of matter, it has no physical structure, and does not itself perform any useful, concrete or tangible result.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (Voice Quality Conversion in TD-PSOLA Speech Synthesis) in view of Michizuki et al. (US 2002/0052733).

As per claims 7, 1, and 5, Sun teaches a computer system, method, and computer program product, respectively, for synthesizing a signal comprising the steps of:

a) providing of a first signal having first periods of a first type and second periods of a second type in an alternating sequence (Section 2, lines 6-7, lines 11-13, and line 18),

b) windowing of the first signal to provide a pitch bell for each of the first and second periods (Section 3, lines 3-4),

c) determining a number of required pitch bell locations for a second signal to be synthesized (Section 3, lines 4-7, and lines 9-11 where the "desired spacing" determines the required pitch bell locations), and

f) performing an overlap and add operation on the selected pitch bells in order to synthesize the second signal (Section 3, lines 9-11).

However, Sun does not specifically mention

d) selecting of one of the pitch bells for a first one of the required pitch bell locations by identifying the nearest neighboring period of the first one of the required pitch bell locations being of the first type, and selecting of the pitch bell of the identified period,

e) selecting of one of the pitch bells for a second one of the required pitch bell locations by identifying a nearest neighboring period of the second one of the required pitch bell locations having the second type, and selecting the pitch bell of the identified period, and

whereby the steps d) and e) are carried out for all of the required pitch bell locations.

Conversely, Michizuki et al. teach

d) selecting of one of the pitch bells for a first one of the required pitch bell

locations by identifying the nearest neighboring period of the first one of the required pitch bell locations being of the first type, and selecting of the pitch bell of the identified period (Paragraphs [0055] lines 17-23, [0060], and [0061]),

e) selecting of one of the pitch bells for a second one of the required pitch bell locations by identifying a nearest neighboring period of the second one of the required pitch bell locations having the second type, and selecting the pitch bell of the identified period (Paragraphs [0055] lines 17-23, [0060], and [0061]), and

whereby the steps d) and e) are carried out for all of the required pitch bell locations (Paragraph [0061]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the features described above as taught by Michizuki et al. for Sun's method because Michizuki selects the representative speech waveforms and associates them with the speech segments to reassemble the speech segments for synthesizing the speech (Michizuki's paragraph [0061]).

As per claim 2, Sun, in view of Michizuki et al., teach the method of claim 1, the first signal having alternating strong and weak periods of substantially the same signal form (Sun's Section 2, lines 6-7, lines 11-13, and line 18).

As per claim 3, Sun, in view of Michizuki et al., teach the method of claims 1 or 2, the first signal being a creaky voice signal (Sun's Section 6-7).

As per claim 6, Sun, in view of Michizuki et al., teach the computer program product of claim 5 the program means being adapted to determine the required pitch bell locations in accordance with a required duration of the second signal to be synthesized (Sun's Section 3, lines 9-11, where the "desired spacing" determines the required pitch bell locations).

As per claim 8, Sun, in view of Michizuki et al., teach the computer system of claim 7 further comprising means for storing of classification data for identifying first and second periods of the first signal (Michizuki's Paragraphs [0058] and [0059]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of means for storing of classification data for identifying first and second periods of the first signal as taught by Michizuki et al. for Sun's computer system because by having the classification data stored, the amount of the computation for classifying the pitch waveforms can be substantially decreased (Michizuki's paragraph [0015]).

As per claim 9, Sun, in view of Michizuki et al., teach a synthesized signal comprising a number of pitch bells which are overlapped and added, the pitch bells being of first and second types, the first and second types having substantially the same signal form and varying amplitudes, the pitch bells being selected to form an alternating sequence of first and second type pitch bells (output of claim 1, see rejection for claim 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie Lennox whose telephone number is (571) 270-1649. The examiner can normally be reached on Monday to Friday 9:30 am - 7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL 12/20/2007


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER